

CLAIMS

The following is a copy of Applicants' claims that identifies language being added with underlining ("____") and language being deleted with strikethrough ("—") or double brackets ("[[]]")., as is applicable:

1. (Currently amended) A light emitting device comprising:
 - a laser diode; and
 - a phosphor composition comprising phosphor particles having a mean particle diameter in the range of about 13 to about 20 micrometers and a d₉₀ in the range of about 30 micrometers to 45 micrometers, wherein d₉₀ refers to a size at which 90 volume percent of the particles are smaller than the mean particle diameter, the phosphor composition positioned to receive light from said laser diode, the phosphor composition capable of absorbing light from said laser diode and emitting light at a wavelength longer than the light from the laser diode, wherein the phosphor composition comprises a first type of phosphor particles comprising a material selected from CaS:Eu²⁺, Mn²⁺, Mg₄GeO_{5.5}F:Mn⁴⁺, and ZnS:Mn²⁺, and a second type of phosphor particles, wherein the first type of phosphor particles emits red light upon excitation, and the second type of phosphor particle emits green light upon excitation.
2. (Original) The light emitting device of claim 1, wherein the device is a white light emitting device.
3. (Canceled)
4. (Previously presented) The light emitting device of claim 1, wherein the first type of phosphor particles emits light having a wavelength in the range of about 590 to about 650 nm.
5. (Canceled)
6. (Previously presented) The light emitting device of claim 1, wherein the second type of

phosphor particles emits light having a wavelength in the range of about 520 to about 550 nm.

7. (Previously presented) The light emitting device of claim 1, wherein the second type of phosphor particles comprises a material selected from $\text{SrGa}_2\text{S}_4:\text{Eu}^{2+}$ and $\text{ZnS}:\text{Cu},\text{Al}$.
8. (Original) The light emitting device of claim 6, wherein the first type of phosphor particles emits light having a wavelength in the range of about 590 to about 650 nm.
9. (Original) The light emitting device of claim 1, wherein the phosphor composition comprises phosphor particles that emit yellow light upon excitation.
10. (Original) The light emitting device of claim 9, wherein the phosphor particles emit light having a wavelength in the range of about 560 to about 580 nm.
11. (Original) The light emitting device of claim 9, wherein the phosphor particles comprise $(\text{Y},\text{Gd})_3\text{Al}_5\text{O}_{12}:\text{Ce},\text{Pr}$.
12. (Canceled)
13. (Currently amended) The light emitting device of claim 42 1, wherein the phosphor composition is a conformal coating is between about 45 100 micrometers and about 150 micrometers thick provided on a surface of the laser diode.
14. (Original) The light emitting device of claim 1, wherein the phosphor composition is disposed on a surface of a lens positioned to receive light from the laser diode.
15. (Original) The light emitting device of claim 1, wherein the phosphor composition comprises a clear polymer matrix having phosphor particles suspended therein, wherein the clear polymer matrix is shaped as a lens, the clear polymer matrix being positioned to receive light from the laser diode and to direct light from the light emitting device.

16. (Original) The light emitting device of claim 1, wherein the phosphor composition comprises a material selected from SrS:Eu²⁺ and CaS:Eu²⁺.
17. (Original) The light emitting device of claim 1, wherein the phosphor composition comprises a material selected from CaS:Eu²⁺,Mn²⁺ and (Zn,Cd)S:Ag⁺.
18. (Original) The light emitting device of claim 1, wherein the phosphor composition comprises a material selected from Mg₄GeO_{5.5}F:Mn⁴⁺; and ZnS:Mn²⁺.
19. (Original) The light emitting device of claim 1, wherein the phosphor composition comprises a material selected from SrGa₂S₄:Eu²⁺ and ZnS:Cu,Al.
20. (Original) The light emitting device of claim 1, wherein the phosphor composition comprises (Y,Gd)₃Al₅O₁₂:Ce,Pr.
21. (Original) The light emitting device of claim 1, wherein the phosphor composition has a first peak emission wavelength in the range of about 620 nm to about 650 nm.
22. (Original) The light emitting device of claim 21, wherein the phosphor composition has a second peak emission wavelength in the range of about 520 nm to about 550 nm.
23. (Original) The light emitting device of claim 1, wherein the phosphor composition has a peak emission wavelength in the range of about 560 nm to about 580 nm.
24. (Canceled)
25. (Currently amended) The light emitting device of claim 1, wherein the laser diode is one of a blue laser diode, a violet laser diode, and a UV laser diode.

26 – 31. (Canceled)

32. (Currently amended) A light emitting device comprising:
 - a laser diode; and
 - a phosphor composition positioned to receive light from said laser diode, the phosphor composition capable of absorbing light from said laser diode and emitting light at a wavelength longer than the light from the laser diode, wherein the phosphor composition consists of a first type of phosphor particles comprising a material selected from Mg₂GeO₅:Mn⁴⁺ and consisting of ZnS:Mn²⁺, and a second type of phosphor particles,
wherein the first type of phosphor particles emits red light upon excitation, and the second type of phosphor particle emits green light upon excitation.
33. (New) A light emitting device comprising:
 - a laser diode;
 - a phosphor composition positioned to receive light from said laser diode, the phosphor composition capable of absorbing light from said laser diode and emitting light at a wavelength longer than the light from the laser diode; and
 - a drive circuit for operating the laser diode in one of a pulsed mode and a continuous wave mode.
34. (New) The light emitting device of claim 33, further comprising a temperature control device.
35. (New) The light emitting device of claim 33, further comprising:
 - a base;
 - a casing wall joined to the base at a first end of the casing wall; and
 - a transparent cap coated with the phosphor composition, the transparent cap joined to the casing wall at a second end of the casing wall.
36. (New) The light emitting device of claim 35, further comprising a lens positioned adjacent the transparent cap to direct light from the light emitting device.

37. (New) The light emitting device of claim 36, wherein the lens is a planar lens.
38. (New) The light emitting device of claim 36, wherein the lens is a dome lens.